# Sarah Baldwin EDT 514

# Learning Activity 4

**Story Problems**

**What They Will Do:**

They will begin this lesson with a brief discussion/review of story problems. This is something we have been practicing. We will practice a few addition story problems as a whole group by completing a worksheet. Then the students will be given a chance to create their own problems and help solve others using my ENO Board. I will call on students to help me create addition story problems with numbers between 0-15. I will write them using my ENO Board. Then I will call students up to the board to draw the pictures, write the number sentences and fill in the answers. During math centers one of the centers (the teacher center) will ask students to create their own story problem using a picture given to them. Each student will be given a different picture. After they have created a problem to match the picture, they will give their problem to someone in their group and have them answer it. I will be leading this center and am there to offer guidance and help when needed. I will check these as the students complete the activity. The computer center will use Ipads this day. They will use Draw Free to create story problems. We have practiced drawing pictures and making stories today and prior to this lesson. They will use the Ipad to create two stories and then they can use coolmathgames.com like usual. Before centers begin I always explain, in detail, each center so I will sit the students at group and show them the functions of the Ipad and how to get to Draw Free. I will show them how you can choose different colors and you use your finger to write, rather than a pencil. As an extension the first graders will have story problems as their homework for the week as well.

**Classroom Setting:**

The setting for this activity is my classroom. For this activity the students will sit at their seats, which are tables of about 4-5 students per table. They will first complete the story problem worksheet at their seats. As we create problems as a whole group on the Smart Board they will also sit in their seats, but they will leave their seats and come to the front of the room to help me create problems on the board. For math centers students rotate from one area of the room to another. My center takes place at my table. The math center groups are made up of 4-5 students per group and they are placed in groups based on their academic math level and abilities. Students using the Ipads will sit at the computer center since they will also have computer time.

We have been using my ENO Board for the past few weeks. Students are very familiar with the board and know how to use the pen correctly to write on the board. Before participating in this activity they need to have experience with the board, which they all do and background knowledge of number stories is very important. Before they can create their own story they need to be able to solve stories that were already written for them. They have had a lot of practice with this.

**Learning Objective**

The learner population for this activity is 25 first grade students.

**Standards and Benchmarks**

I am using the Common Core Standards because that is what our school follows.

[CCSS.Math.Content.1.OA.C.6](http://www.corestandards.org/Math/Content/1/OA/C/6) Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).

[CCSS.Math.Content.1.OA.A.1](http://www.corestandards.org/Math/Content/1/OA/A/1) Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.1

[CCSS.Math.Content.1.OA.D.8](http://www.corestandards.org/Math/Content/1/OA/D/8) Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = \_ – 3, 6 + 6 = \_*.

-As a result of this activity students should be able to successfully add numbers and write an appropriate number story, which matches a picture. They should be able to read a number story and correctly fill in missing numbers to a number sentence and then use strategies to solve that problem. Students will also be able to create an appropriate number story by looking at a picture. The story should make sense with the picture and should have a question at the end. Students will be able to read and write the story as well.

**Technology Integration**

Technology will be used to enhance the activity because it allows the students to practice what we have been learning over the past couple of weeks. The technology improves the learning process because using the board makes the content more exciting and also gets the students moving from the board to their seats. First graders have a difficult time sitting in their seats for a long period of time. I feel that movement is important with small children, so this will help their learning process because they won’t have to sit still during the entire lesson. My students are much more engaged in learning when they know they can come in front of the class and use our Smart Board. This specific technology gets the students moving and their brains thinking. Using the board brings out more enthusiasm and participation than would if I just had them sit at their seats and complete a worksheet. Even though we are doing that in this activity, there is the opportunity to participate. The kids have not used the Ipads yet this year, but often used them last year. They get very excited to use them and they are more eager to do the work when using technology. They will be more willing to write stories on the Ipad, rather than using pencil and paper like usual.

**Connection to Standards**

**PK-2.RI. Research and Information Fluency** - By the end of Grade 2 each student will:

1. Interact with Internet based resources

**PK-2.TC. Technology Operations and Concepts -** By the end of Grade 2 each student will:

1. Be able to use basic menu commands to perform common operations (e.g., open, close, save, print)

6. Understand that technology is a tool to help him/her complete a task, and is a source of information, learning, and entertainment

7. Demonstrate the ability to navigate in virtual environments (e.g., electronic books, games, simulation software, web sites.

**Student Prior Knowledge**

To assess students’ prior knowledge I have already done many story problem activities with them. I have done activities with them at my teacher center during math centers to gauge how they answer problems. For example, if they use their fingers, counting on, or pictures to answer the problem. I have also done whole group instruction and discussions. I was able to teach strategies to help them solve the problems and how to create one. Then I gained information on what type of knowledge they already had by who participated and what types of answers I received from them. We have spent a large amount of time on these skills, so they should be able to successfully complete the lesson.

**Content Knowledge**

I feel that I know a lot about the content being taught. I know how to answer story problems and create them. I can also easily add and subtract numbers in order to find answers and use pictures to help answer problems. I know how to write number sentences from a story problem. I have a lot of knowledge on what strategies the students should be using to help them both solve and write problems. Some of these strategies include drawing pictures, using manipulatives (if available), and counting on to help with addition problems.

**Pedagogical Knowledge**

The instructional techniques used in this activity are whole group instruction, small group instruction, and individual practice. Whole group instruction allows me to have a discussion with the class about number stories. I am able to get an idea of who understands the content and who needs more instruction by who participates and what type of answers I get from the kids. The centers allow me to work with small groups to focus more on each student. If a student is having trouble I can offer them more assistance than when in a whole group. Students will also get a chance to explore technology on their own at the computer/Ipad center. I choose to also have the students complete work at home because then I can see who can complete work on their own, without my assistance. These strategies work best for this activity because the students get to work in all three forms, whole group, small groups, and individually. This gives them chances to learn and then explore. It also gives them a lot of practice with story problems. This is probably the most difficult skill they will complete on their test. It allows me, the teacher, to differentiate and it’s a chance to see how they work in those three situations. Every child learns differently and hopefully each student is reached during this lesson.

**Technology Knowledge**

For this activity I know how to use my Smart Board. I have had a few weeks experience with it now and I feel very comfortable using it. I have to admit it took some getting used to and there are still small problems once in a while, but I feel confident in my ability to use it to help the students learn. I still have a lot to learn about it, but for this lesson I know everything I need to. I also had to learn how to hook up my computer to my board in order to display what I need. I have my own Ipad and I used them last year with many RTI groups and during long-term sub jobs. I have used Draw Free for writing groups to write sentences and they were much more engaged, so I feel that the same will be for writing number stories.

**TPACK Analysis**

My rationale for teaching this particular content with this pedagogy and using my Smart Board is because I have found that it works well with first graders and my students. I use a variety of groupings and activities in order to engage every student. I have used this approach for every lesson because differentiation allows me to reach every student at some point during the lesson since I know that they all learn differently.

I have watched many teachers throughout my years out of college and I have seen this type of strategy work effectively. I have also read articles that differentiation is successful. I have used it in my RTI experience as well. I would begin with whole group instruction to teach a variety of topics and then they would complete activities or worksheets on their own or with my guidance. I chose to use my Smart Board because it causes an increase in participation and gets my students engaged and enthusiastic about their own learning. They are much less likely to whisper to a friend or zone out when they are able to take part in the learning process by writing on the board and creating the problems we solve. The Ipads are an extra bonus for the kids.

**Assessment Plan**

I will assess students by checking their worksheets that they complete as a whole group at the beginning of the lesson. I will also check their answers on the story problems that they complete at my teacher center. Even though I will not have written proof I can assess the first graders during our whole group activity using the Smart Board. I will see who is the most comfortable with the content by who participates the most and the amount of correct answers I receive. Of course I will also call on students without their hands raised so I can see what they know or do not know. Finally, at the end of October the first graders will be taking a math test. On this test students will have to answer one question that asks them to answer a story problem and then the final question asks them to create their own story problem based off a picture. I will assess their progress from checking their answers on the test. Prior to the test a study guide will be sent home. This will help me to see what is understood and what needs more work before I give the test. I will know that the learning objective was met if they successfully answer and create a story problem.

**Learning Activity Rubric**

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| --- | --- | --- | --- | --- | --- |
| **Category** | **3 Points** | **2 Points** | **1 Point** | **0 Points** | **Score** |
| **Activity Description** | There is a very clear and detailed description of the plan that details what the students and teacher will be doing throughout the duration of the activity. | There is a fairly clear description of the plan that details what the students and teacher will be doing throughout the duration of the activity. | There is a general description of the plan that details what the students and teacher will be doing throughout the duration of the activity. | There isn’t a clear description of the plan that details what the students and teacher will be doing throughout the duration of the activity. |  |
| **Technology Integration** | The plan clearly states how technology will be used to enhance learning. The plan also indicates how students will be supported during the project. | The plan states how technology will be used in the learning environment. The plan mostly indicates how students will be supported during the project. | There is a general statement about how technology will be used. The plan partially indicates how students will be supported during the project. | There is not a clear statement about how technology will be used. The plan doesn’t indicate how students will be supported during the project. |  |
| **Learning Objective** | There is a clear connection between the design of the activity and the stated learning objectives. The activity is well suited to help students meet the stated objectives. | There is a connection between the design of activity and the stated learning objectives. The activity is mostly suited to help students meet the stated objectives. | There is a minimal connection between the design of the activity and stated learning objectives. The activity is partially suited to help students meet the stated objectives. | There isn’t a clear connection between the design of the activity and the stated learning objectives. The activity is not suited to help students meet the stated objectives. |  |
| **Connection to Standards** | Several relevant content and technology standards are stated in the learning objective. | Some relevant content and technology standards are stated in the learning objective. | Very few relevant content and technology standards are stated in the learning objective. | No relevant content and technology standards are stated in the learning objective. |  |
| **Student Prior Knowledge** | Student prior knowledge and skills have been taken into consideration and adequate support has been designed into the activity to help the students be successful in their learning. | Student prior knowledge and skills has mostly been taken into consideration and some support has been designed into the activity to help the students be successful in their learning. | Student prior knowledge and skills has partially been taken into consideration and support has been designed into the activity on a limited basis. | Student prior knowledge and skills have not been adequately factored into the planning of the activity. |  |
| **Content Knowledge** | All of the content knowledge (CK) required of the teacher to successfully execute this activity is clearly stated in the plan. | Most of the content knowledge (CK) required of the teacher to successfully execute this activity is stated in the plan. | Some of the content knowledge (CK) required of the teacher to successfully execute this activity is stated in the plan. | Very little of the content knowledge (CK) required of the teacher to successfully execute this activity is stated in the plan. |  |
| **Pedagogical Knowledge** | All of the pedagogical knowledge (PK) required of the teacher to successfully execute this activity is clearly stated in the plan. | Most of the pedagogical knowledge (PK) required of the teacher to successfully execute this activity is stated in the plan. | Some of the pedagogical knowledge (PK) required of the teacher to successfully execute this activity is stated in the plan. | Very little of the pedagogical knowledge (PK) required of the teacher to successfully execute this activity is stated in the plan. |  |
| **Technology Knowledge** | All of the technology knowledge (TK) required of the teacher to successfully execute this activity is clearly stated in the plan. | Most of the technology knowledge (TK) required of the teacher to successfully execute this activity is stated in the plan. | Some of the technology knowledge (TK) required of the teacher to successfully execute this activity is stated in the plan. | Very little of technology knowledge (TK) required of the teacher to successfully execute this activity is stated in the plan. |  |
| **TPACK Analysis** | The learning activity includes a logically supported rationale for the technological and pedagogical decisions made throughout. | The learning activity includes a logically supported rationale for most of the technological and pedagogical decisions made throughout. | The learning activity includes a logically supported rationale for some of the technological and pedagogical decisions made throughout. | The learning activity does not include a logically supported rationale for the technological and pedagogical decisions made throughout. |  |
| **Assessment** | An adequate assessment plan has been created that clearly outlines how students and/or their work will be assessed. | An adequate assessment plan has been created that outlines how students and/or their work will be assessed. | An assessment plan has been created that mostly outlines how students and/or their work will be assessed. | An adequate assessment plan is not provided. |  |
| **Grammar & Spelling** | There are no spelling or grammar errors. | There are a few spelling and grammar errors. | There are several spelling and grammar errors. | There are multiple spelling and grammar errors. |  |

**Comments:**

**Score: /33**